# UNITED STATES PATENT AND TRADEMARK OFFICE

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 09/740,201 | 12/18/2000 | Cian E. O'Meara | 673-1019 | 4327 |

| 23644 | 7590 | 06/06/2006 |
|---|---|---|

BARNES & THORNBURG, LLP
P.O. BOX 2786
CHICAGO, IL 60690-2786

| EXAMINER |
|---|
| BOYCE, ANDRE D |

| ART UNIT | PAPER NUMBER |
|---|---|
| 3623 | |

DATE MAILED: 06/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on _08 March 2006_.

2a)☒ This action is **FINAL.**        2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) _1-36_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-36_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All  b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

## DETAILED ACTION

### *Response to Amendment*

1.      This Final office action is in response to Applicant's amendment filed March 8,

2006.  Claims 1, 23, 24, 30, 35 and 36 have been amended.  Claims 1-36 are

pending.


2.      The previously pending rejections to claims 30-34 under 35 U.S.C. 112, second

paragraph have been withdrawn.

The previously pending rejections to claims 30-34 under 35 U.S.C. 101 have

been withdrawn.


### *Response to Arguments*

3.      Applicant's arguments with respect to claims 1-36 have been considered but are

moot in view of the new ground(s) of rejection, necessitated by Applicant's

amendments to the claims.


### *Claim Rejections - 35 USC § 103*

4.      The text of those sections of Title 35, U.S. Code not included in this action can

be found in a prior Office action.


5.      Claims 1-17, 22-25, 27, and 30-36 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Powell et al (US 2002/0065700), in view of Kocur (USPN

5,913,201).

As per claim 1, Powell et al disclose a method of allocating a location-related

order to one of a plurality of mobile agents (processing work assignments to a

mobile workforce ¶ 0033), comprising the steps of a) maintaining a current order

record identifying a first location and first time at which each agent is expected to

become free to fulfill a new order (workforce member scheduled examined and

periods of availability and slack time are identified, ¶ 0033); b) maintaining a

prioritized listing of locations (consideration of workforce members geographic

location and associate a geographic block to minimize travel time, ¶ 0044), including

both scheduled locations which an agent is currently due to visit and unscheduled

locations which said agent is not currently due to visit (i.e., pooled queue 20 of

pooled work orders associated with geographic location, listed according to priority

of the work order, ¶ 0044, wherein inserting pooled work orders 36 into the

workforce member schedule, create a revised schedule or route 40, ¶ 0055); c)

receiving said location-based order and recording the location and time at which said

order is to be fulfilled (pooled work order associated with geographic block,¶ 0044);

d) determining from said prioritized listing of locations a suitable agent to fulfill said

order (workforce member with slack time or periods of availability in the geographic

block, ¶ 0044); and e) allocating said order to said identified agent (pooled work

orders associated with the geographic block are inserted into workforce member's

schedule who has slack, ¶ 0044). Powell et al does not explicitly disclose locations

in said listing being prioritized to rank both the scheduled and unscheduled locations

for said agent according to availability of the agent to reach each location after said

first time, said availability having been calculated for each location irrespective of

whether or not said agent is currently due to visit a particular location in said listing.

Kocur discloses an initial route (i.e., scheduled locations) created for each worker

based utilizing a distance and travel time minimizing technique (column 12, lines 31-

37), which results in ordering the work-projects in deadline order (i.e., rank order of

importance), wherein all pairs of work-projects in the route are then swapped and

examined for improvements, i.e., both scheduled and unscheduled locations are

examined and ranked in order to determine improvement (column 15, lines 9-17).

Both Powell et al and Kocur are concerned with efficient assignment of mobile

workers, therefore it would have been obvious to one having ordinary skill in the art

at the time the invention was made to include locations in said listing being

prioritized to rank both the scheduled and unscheduled locations for said agent in

Powell et al, as seen in Kocur, thus improving the efficiency and robustness of the

Powell et al system in determining worker schedules.

As per claim 2, Powell et al disclose step a) comprises maintaining for each

agent an individual current order file relating only to that agent (individual work force

member schedule, ¶ 0033).

As per claim 3, Powell et al disclose step a) comprises maintaining a combined

current order file relating to a plurality of agents, with said first location and first time

identified for each such agent (schedule created for the work force as a whole, ¶

0033).

As per claim 4, Powell et al disclose step b) comprises maintaining for each agent an individual prioritized location listing relating only to that agent (workforce member geographic location and associated geographic block, ¶ 0044).

As per claim 5, Powell et al disclose step b) comprises maintaining a combined prioritized location listing relating to a plurality of agents, with each location being prioritized for one or more agents according to the ability of the or each such agent to reach each location after said first time relating to the agent (i.e., each workforce member's geographic location and associated geographic block is examined in order to minimize travel time, ¶ 0044).

As per claim 6, Powell et al disclose the step of updating the current order record for said identified agent with a new first location and first time at which said agent is expected to become free after fulfilling said order (i.e., process is iterative until all slack time is filled, ¶ 0044).

As per claim 7, Powell et al does not disclose said step of allocating said order comprises i) offering said order to said agent (i.e., inserting work order into workforce member's schedule); and ii) receiving confirmation of acceptance of the order from the agent (i.e., confirmation is assumed upon delivery of new schedule to workforce member, wherein scheduling assignments are based upon worker preference, ¶ 0040).

As per claim 8, Powell et al disclose said current order record identifies locations and times relating to all current orders assigned to said agent (i.e., geographic location and slack time or availability).

As per claim 9, Powell et al disclose said listing of locations identifies the priority of each location with a time at which the agent is expected to be able to reach said location (i.e., minimize travel time between consecutive work orders, ¶ 0044).

As per claim 10, Powell et al disclose said listing of locations identifies the priority of each location with a priority identifier calculated from the distance between each such location and said first location, and the time between the current time and said first time (i.e., minimization of travel time based upon the geographic block of the work order, ¶ 0043).

As per claim 11, Powell et al disclose said distance is a true geographical distance (i.e., geographical area 30 represent true distances, figure 2).

As per claim 12, Powell et al disclose said distance is a distance calculated in a non-linear representation of an area including said locations (i.e., area 30 parsed into grid blocks 31, figure 2).

As per claim 13, Powell et al disclose said representation is selected from a grid of cells to which locations are mapped, a set of groups of locations, and a mesh of elements to which locations are mapped (grid blocks 31).

As per claim 14, Powell et al disclose said locations are identified as cells within a grid to which locations are mapped (grid blocks 31).

As per claim 15, Powell et al disclose said locations are identified as groups of locations within a set of such groups (i.e., groups of geographic blocks).

As per claim 16, Powell et al disclose said locations are identified as elements within a mesh of elements to which locations are mapped (i.e., circle shapes 36

represent pooled work locations, and diamonds 34 represent service orders, figure

2).

As per claim 17, Powell et al disclose updating the prioritized listing for said

identified agent when said order has been allocated, to take account of said new first

location and new first time (i.e., iterative process updates workforce members

schedule and looks for additional slack time or availability, ¶ 0044).

As per claim 22, Powell et al disclose said current order file further includes

details of an advance order, including a second location and a second time after said

first time, at which said advance order is to be fulfilled, and wherein step d) includes

the step of determining whether the agent is expected to be able to finish said new

location-based order with sufficient time to fulfill said advance order (i.e., iterative

process updates workforce members schedule and looks for additional slack time or

availability in order to add new work orders, ¶ 0044).

Claim 23 is rejected based upon the same rationale as claim 17 (which depends

from claim 6 and claim 1), since it contains the same limitations therein.

Claim 24 is rejected based upon the rejection of claim 1, since it is the system

claim corresponding to the method claim.

As per claim 25, Powell et al disclose said input interface comprises an operator

interface for an operator to input details received from an ordering party (user

interface 102, ¶ 0067).

As per claim 27, Powell et al disclose a map database correlating real

geographical locations with location identifiers for use in identifying locations in said

current orders file and said listing (i.e., computer program 92 must include a map database in order to determine minimal travel time based upon geographic locations).

Claims 30-34 are rejected based upon the same rationale as the rejections of claims 1, 8, 22, 2, and 4, respectively, since they are the profile claims relating to the method claims, containing the same limitations therein.

Claim 35 is rejected based upon the rejection of claim 1, since it is the program product claim, corresponding to the method claim.

Claim 36 is rejected based upon the rejection of claim 1, since it is the communication network claim, corresponding to the method claim.

6.      Claims 18-20, 26, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Powell et al, in view of Kocur (USPN 5,913,201), as applied to claims 1 and 24 above, in further view of Sisley et al (USPN 5,943,652).

As per claims 18-20, Powell et al does not disclose said first time is calculated from a journey time file which records expected journey times between locations, and said first time is input by an operator based on an expected journey time, wherein the operator is the agent to which the current order record relates. Sisley et al disclose the travel time being specified by the system user and stored in a travel time file, wherein the system user could be the technician (column 26, lines 53-55). Both Powell and Sisley are concerned with effective workforce scheduling, therefore it would have been obvious to one having ordinary skill in the art at the time the

invention was made to include a travel time file in the Powell system, thereby making the system more efficient in determining repetitive travel times.

As per claim 26, Powell et al does not disclose said input interface is selected from a web server hosting a user interface via which ordering parties can input order details, a Wireless Application Protocol (WAP) server hosting a user interface via which ordering parties can input order details, an Interactive Voice Response (IVR) unit via which a user can input order details and a Short Messaging Service (SMS) gateway for receiving SMS messages containing order details. Sisley et al disclose a service management system and one or more interactive user interfaces 18 for communication between the scheduling system and the users (column 5, lines 35-41). Both Powell and Sisley are concerned with effective workforce scheduling, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include a interactive communication system in the Powell system, thereby making the system more efficient in communicating customer needs to the workforce members.

Claim 28 is rejected based upon the rejection of claim 18, since it is the system claim corresponding to the method claim.

7.      Claims 21 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Powell et al, in view of Kocur (USPN 5,913,201), as applied to claims 1 and 24 above, in further view of Ditcharo et al (USPN 6,587,851).

As per claim 21, Powell et al does not disclose the step of maintaining said current order record includes providing access to an agent to said current order record to edit the details recorded therein. Ditcharo et al disclose access unit 204 including provisions that allow technicians to retrieve information and run tests (column 5, lines 16-24). Both Powell and Ditcharo are concerned with effective workforce scheduling, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include workforce member access to records in Powell, as an efficient means of sharing information within the system, thereby improving overall communications.

Claim 29 is rejected based upon the rejection of claim 21, since it is the system claim corresponding to the method claim.


### Conclusion

8.      Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and

any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing

date of the advisory action. In no event, however, will the statutory period for reply

expire later than SIX MONTHS from the date of this final action.


9.      Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Andre Boyce whose telephone number is (571) 272-

6726. The examiner can normally be reached on 9:30-6pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Tariq Hafiz can be reached on (571) 272-6729. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-

8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR

only. For more information about the PAIR system, see http://pair-direct.uspto.gov.

Should you have questions on access to the Private PAIR system, contact the

Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like

assistance from a USPTO Customer Service Representative or access to the

automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-

272-1000.

adb
May 30, 2006

JOSEPH THOMAS
SUPERVISORY PATENT EXAMINER